

Position Description – Research Assistant

Position Details

Position Title:	Research Assistant
Position Number:	NEW
College/Portfolio:	Science, Engineering and Health
School/Group:	School of Health and Biomedical Sciences
Campus Location:	RMIT Bundoora Campus
Classification:	HEW 6
Employment Type:	Fixed Term – 1 year (Research project)
Time Fraction:	1.0 FTE

RMIT University

RMIT is a global university of technology, design and enterprise. Our mission is to help shape the world through research, innovation, teaching and engagement, and to create transformative experiences for our students, getting them ready for life and work.

One of Australia's original educational institutions founded in 1887, RMIT University now has 83,000 students including 12,000 at postgraduate level.

The University enjoys an international reputation for excellence in professional and vocational education, applied and innovative research, and engagement with the needs of industry and the community.

With three campuses in Melbourne (City, Brunswick and Bundoora), two in Vietnam (Hanoi and Ho Chi Minh City) and a centre in Barcelona, Spain, RMIT is a truly global university. RMIT also offers programs through partners in Singapore, Hong Kong, mainland China, Indonesia and Sri Lanka, and enjoys research and industry partnerships on every continent.

RMIT prides itself on the strong industry links it has forged over its 130-year history. Collaboration with industry is integral to the University's leadership in applied research and education, and to the development of highly skilled, globally focused graduates.

We are a 5-Star university under the QS Stars international evaluation system and are 16th in the world among universities less than 50 years old (2016–17 QS Top 50 Under 50 index).

In the 2018 QS World University Rankings by Subject, RMIT is 11th in the world (highest ranked in Australia) in Art and Design, and 26th in the world (fourth highest in Australia) in Architecture and the Built Environment. We are also among the world's top 100 universities in Engineering (Civil and Structural; Electrical and Electronic; and Mechanical, Mechanical, Aeronautical and Manufacturing); Accounting and Finance; and Business and Management Studies).

Our research was ranked among the best in the world in the 2015 Excellence in Research for Australia evaluation. RMIT was rated "well above world standard" in 13 fields and "above world standard" in a further nine fields.

College of Science, Engineering and Health

The College comprises four Schools delivering a broad range of programs in science, engineering, health and technology at apprenticeship, certificate, bachelor, masters and PhD levels. Many programs articulate between vocational and higher education, creating pathways for further study. There is a vibrant research community attracting funding from a range of government and industry sources. The College has an annual income of approximately \$425 million and employs over 1,000 staff providing on and offshore programs to approximately 20,000 students.

RMIT University is an Athena SWAN member and the College of Science, Engineering and Health is central to driving improvements in gender equality, diversity and inclusion, particularly in the Science, Technology, Engineering, Mathematics and Medicine (STEMM) disciplines.

Details relating to the College may be found at: www.rmit.edu.au/seh

School of Health and Biomedical Sciences

The School of Health and Biomedical Sciences comprises three Academic Clusters (Allied Health, Applied Health, and Biomedical Sciences). Primarily based at the RMIT Bundoora campus, we undertake teaching and research across ten disciplines: Chinese Medicine, Chiropractic, Exercise Science, Human Biosciences, Laboratory Medicine, Medical Radiations, Nursing, Osteopathy, Pharmacy and Psychology. Many of our programs include Work Integrated Learning as an intrinsic part of student learning, both through placements in partner industries and through the University's student led Health Sciences Clinic located at Bundoora.

The School's research was ranked as well above world standard in clinical science, complementary and alternative medicine, medical physiology, microbiology and pharmacology & pharmaceutical sciences, and above world standard in psychology, public health & health service and medical & health sciences. We have a strategic focus on chronic disease and integrative health care with cross-cutting themes of: Indigenous Health, Exercise & Nutrition, Ageing in Health & Disease, and Medical Devices, Diagnostics and Prognostics. Research within the School is supported by modern facilities and state-of-the-art equipment as well as a significant number of national and international partners.

Details of the School can be found at:

<https://www.rmit.edu.au/about/our-education/academic-schools/health-and-biomedical-sciences>

Translational Immunology & Nanotechnology Research Program

This program supports the research activities of Professor Magdalena Plebanski to develop practical immune therapies and vaccines against complex diseases. This encompasses research into the immunological mechanisms of the development of ovarian cancer, glioblastoma, strategies for treatment for malaria and asthma, healthy aging, and pioneering the use of synthetic size-defined non-inflammatory nanoparticles. The group is involved in several Australian clinical trials and collaborative research initiatives all of which are aimed to facilitate translation of initiatives from the laboratory bench to ultimately progressing to improved patient outcomes.

The Research Assistant will support the many animal model projects and human trials being undertaken by the postdoctoral researchers and PhD students of this growing group and support collaborative activities with other research groups particularly in the fields of ovarian cancer.

Position Summary

The Translational Immunology & Nanotechnology Research Group is seeking an experienced laboratory research assistant (full time) to join the laboratory. You will take an active role across several pre-clinical research projects, aimed at the development of new cancer therapeutics. You must have excellent animal husbandry skills and the ability to perform routine experimental procedures with minimal supervision. Specific expertise with IV, IP and SC injections, and a good working knowledge of rodent anatomy, is highly desirable. You will assist with lab assays and have the opportunity to learn intravital whole animal fluorescence imaging using the IVIS imaging system. You will also be expected to accurately input data into excel sheets, databases. The research assistant would be expected to work precisely to protocols established in the laboratory. Attendance and participation in lab meetings will be required. Contribution to general housekeeping in the laboratory will be necessary, including preparation of specific laboratory reagents and ordering supplies. Meticulous record keeping is essential. There will be mouse handling involved in this position.

Collaborative activities, including collaborations with the Walter and Eliza Hall Institute (WEHI), Professor Clare Scott with whom TIN is running a major human trial (SOLACE2), as well as Dr. Andrew Stephens at the Hudson, may further involve:

- (1) To maintain laboratory databases
Databases are kept for new human samples, transplantation of existing human samples, -80 freezer vials, liquid nitrogen vials, and samples sent to histology. These databases need to be updated on a weekly or fortnightly basis in collaboration with other laboratory staff.
- (2) Process patient blood and tumours samples, as well as PDX samples
Patient blood samples require immediate processing to isolate PBMCs, CTCs, cfDNA and germline DNA. Patient and PDX tumours require immediate processing to generate new cell lines or organoids. Careful preparation of RNA and DNA from these samples is required to ensure they pass QC for sequencing and other technical processes.
- (3) Culture ovarian cancer cell lines and organoids
Maintaining excellent tissue culture practice is essential with regular testing of cell lines and organoids for mycoplasma contamination. Meticulous recording of novel rare cancer cell lines and organoids is essential.
- (4) Flow cytometry, immunohistochemistry, western blotting, PCR and qRT-PCR analysis
Standard laboratory techniques will be performed according to established protocols. Teaching new staff these techniques and updating protocols in conjunction with senior lab staff will be involved.
- (5) To assist with molecular cloning and lentiviral transduction
Molecular cloning, sequencing and use of lentiviral constructs in cell lines will be required at times. This work will be conducted under the supervision of senior lab staff.
- (6) Laboratory maintenance
Maintaining stock solutions, reagents and equipment in good order to ensure the efficient running of the laboratory. Assisting with maintaining a record of all hazardous chemicals, ensuring their safe storage in the laboratory, updating risk assessments, and maintaining safe and good laboratory practice

Reporting Line

Reports to: Program Leader, Translational Immunology and Nanotechnology Research Program, School of Health and Biomedical Sciences.

Organisational Accountabilities

RMIT University is committed to the health, safety and wellbeing of its staff. RMIT and its staff must comply with a range of statutory requirements, including equal opportunity, occupational health and safety, privacy and trade practice. RMIT also expects staff to comply with its policy and procedures, which relate to statutory requirements and our ways of working.

You are accountable for completing training on these matters and ensuring their knowledge and the knowledge of their staff is up to date.

Key Accountabilities

Duties and responsibilities include but are not limited to:

- Routine handling and monitoring of rodents under experimental protocol
- Regular data collection and documentation, including animal measurements (e.g. weight, abdominal girth)
- Routine anesthesia and fluorescence imaging of animals
- Assistance with small animal surgeries, substance administration (inhalation, oral, injectable) and sample collection (blood, tissue)
- Process patient blood and tumours samples, as well as PDX samples (as detailed above)
- Flow cytometry, immunohistochemistry, western blotting, PCR and qRT-PCR analysis (as detailed above)

- Contribute to general laboratory maintenance, including cleaning & tidying of equipment and glassware, preparation of solutions, general record keeping.
- Assist with lab assays and learn intravital whole animal fluorescence imaging using the IVIS imaging system
- Excellent animal husbandry skills and the ability to perform routine experimental procedures with minimal supervision.
- Specific expertise with IV, IP and SC injections
- Good working knowledge of rodent anatomy is highly desirable.

Key Selection Criteria

- Ability to work as part of a team using experimental protocols established in the lab and the division
- A genuine commitment to cancer research and dedication to the success of the laboratory research program is essential
- Demonstrated ability to perform molecular biology techniques
- Proficient in cell culture techniques
- Demonstrated experience in animal husbandry
- Excellent attention to detail and record-keeping skills
- Excellent interpersonal and communications skills appropriate for interacting with higher degree research candidates, staff and industry, together with a strong commitment to teamwork and multidisciplinary collaboration.

Qualifications

Mandatory:

- Bachelor of Science (Hons) degree or equivalent in a relevant discipline (immunology or oncology background preferred)

Appointment to this position is subject to passing a Working with Children check

<p>Endorsed:</p>	<p>Name: Prof Magdalena Plebanski Title: Program Leader, TIN Research Program Date: 2 April 2019</p>	<p>Approved:</p>	<p>Name: Prof Christian Doerig Title: Assoc Dean, Biomedical Sciences Cluster Date: 2 April 2019</p>
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